

ABSTRACT OF THE DISCLOSURE

A frequency mixing circuit and a frequency mixing method. The frequency mixing circuit includes first and second differential amplifiers, a subtracter and a mixer. The first differential amplifier amplifies a first pair of input signals having a first frequency to generate a first differential signal. The second differential amplifier amplifies a second pair of input signals having the first frequency orthogonal to the first pair input signals to generate a second differential signal. The subtracter subtracts the second differential signal from the first differential signal. The mixer mixes the subtracted signal with a first and second pairs of drive signals having a second frequency orthogonal to each other, in a sub-harmonic double balanced mixing mode, so that the mixer generates a pair of output signals orthogonal to each other without secondary harmonics.